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(पहला पुनरीक्षण)

Indian Standard

TEXTILE MACHINERY AND ACCESSORIES — CONE AND CHEESE WINDING MACHINES — VOCABULARY

(First Revision)

UDC 677·053·23 : 001·4

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

April 1994 **Price Group 2**

Machinery for Fabric Manufacture (Excluding Knitting) Sectional Committee, TX 14

NATIONAL FOREWORD

This Indian Standard (First Revision) which is identical with ISO 477 : 1982 'Textile machinery and accessories — Cone and cheese winding machines — Vocabulary', issued by the International Organization for Standardization (ISO) was adopted by the Bureau of Indian Standards on the recommendation of the Machinery for Fabric Manufacture (Excluding Knitting) Sectional Committee (TX 14) and approval of the Textile Division Council.

This standard was first published in 1977. This revision has been done in order to align the standard with ISO 477-1982.

In this standard certain terminology and conventions are not identical with those used in Indian Standards; attention is particularly drawn to the following:

> Wherever the words 'International Standard' appear, referring to this standard, they should be read as 'Indian Standard'.

In this Indian Standard, the following international standards are referred to. Read in their respective place the following:

International Standard	*Indian Standard*
ISO 1809 Textile machinery and accessories — Types of formers for yarn packages — Nomenclature	IS 10310 : 1982 Nomenclature for formers for yarn packages (Technically equivalent)
ISO 5238/1 Textile machinery and accessories — Packages for yarns and intermediate products — Part 1 Terminology	IS 13865 (Part 1) : 1993 Textile machinery and accessories — Packages for yarns and intermediate products : Part 1 Terminology (Identical)
ISO 5239 Textile machinery and accessories — Winding — Basic terms	IS 13866 : 1993 Textile machinery and accessories — Winding — Basic terms (Identical)

The French, Russian, German and Italian text has been deleted while adopting this International Standard.

Indian Standard

TEXTILE MACHINERY AND ACCESSORIES — CONE AND CHEESE WINDING MACHINES — VOCABULARY

(First Revision)

0 Introduction

The terms and expressions presented in this International Standard are defined with reference to their use in the field of cross winding, irrespective of the fact that some of them are used in relation to other kinds of textile machinery or other fields, sometimes with different meanings.

1 Scope and field of application

This International Standard establishes a list of basic terms used for the designation of cone and cheese winding machines and their components, as well as the corresponding definitions, in the field of terminology for textile machinery for cross winding.

NOTE — In addition to terms used in the three official ISO languages (English, French and Russian), this International Standard defines (in an annex) the equivalent terms in the German and Italian languages; these have been included for information at the request of Technical Committee ISO/TC 72, and the member bodies for Germany F.R. (DIN), Switzerland (SNV) and Italy (UNI) have verified their correctness. However, only the terms and definitions given in the official languages can be considered as ISO terms and definitions.

2 References

ISO 1809, *Textile machinery and accessories — Types of formers for yarn packages — Nomenclature.*

ISO 5238/1, *Textile machinery and accessories — Packages for yarns and intermediate products — Part 1 : Terminology.*[1]

ISO 5239, *Textile machinery and accessories — Winding — Basic terms.*

3 General terms and definitions

3.1 Cone or cheese winding machine

3.1.1 non-automatic cone or cheese winder: A winding machine upon which the operations of replenishing the creel packages and the doffing of packages (and replacement of formers) are carried out manually.

3.1.2 automatic cone or cheese winding machine : A winding machine upon which the bobbins for creeling and the 'gaiting' of formers, and the lifting and doffing of packages is effected automatically. In some cases only certain of these operations are caried out automatically.

3.2 Winding head

Individual winding unit of the winding machine.

3.2.1 mandrel or holder for package former : Device for holding the package former during the winding operation.

3.2.1.1 mandrels or spindles (expandable or otherwise);

3.2.1.2 lateral clamps holding and centring the package former;

3.2.1.3 independant mandrels guided laterally (for example with the axis of the mandrel sliding in a groove).

3.2.2 package drive : Device intended to ensure the drive and rotation of the winding package; of the following types:

3.2.2.1 tangential surface drive (by friction);

3.2.2.2 positive spindle drive (direct drive).

NOTE — This type of drive is often equipped with a device (mechanical or otherwise) permitting:

a) a constant linear velocity of winding;

b) a pre-set range of linear velocity of winding.

3.2.3 yarn guide:

(1) An element whose function is to ensure, without detriment to the yarn:

— the guidance of the yarn and the application of pressure (tension) to the package;

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[1] At present at stage of draft.

— the guidance of the yarn only (eg: winding with pressure roller).

(2) Split drum or grooved drum whose function consists of ensuring the simultaneous surface drive of the package and the guidance of the yarn. The pressure on the package depending upon the mass of the package or upon a corresponding pressure mechanism.

3.2.4 yarn guide traverse mechanism : A mechanism to impart movement to the yarn guide by one of the following systems:

3.2.4.1 mechanical;

3.2.4.2 hydraulic;

3.2.4.3 electro-mechanical or electronic.

3.2.5 wind ratio mechanism : A device permitting the setting of the wind ratio.

3.2.6 anti-ribboning device[1] : Device serving to avoid the creation of irregularities on the surface of the wound package during winding and especially at the ends of the package. Its action (cyclic or periodic) modifies the position of the movement of the yarn by:

— variations of the length of yarn wound per traverse;

— displacement of the reversal point of the yarn guide (the length of yarn per traverse remaining constant);

— simultaneous application of the above two systems.

3.2.7 anti-patterning device (or layering device) : Device serving to alter rapidly, normally within very short intervals of time, the wind ratio by means of variations of:

— the number of cycles (to and fro) per minute of the traverse guide;

— the speed of rotation of the package.

The device is mainly applied to cone or cheese winding machines having surface drives (and to cross winding in coilers).

4 Additional devices

4.1 yarn tension device : Device to impart to the yarn a suitable tension for obtaining the desired form of package and, to a certain extent, the desired hardness of the wound package.

The principal types are:

4.1.1 gate type;

4.1.2 pinch type (including disc tensioners);

4.1.3 friction brake (wheel friction-driven by the yarn).

NOTE — Tensioners may include the following supplementary devices: yarn clearers, stop motions, tension compensators.

4.2 yarn clearer : Device intended to detect and eliminate yarn faults (slubs, large knots etc.). The principal types are based on these systems:

4.2.1 mechanical;

4.2.2 electronic.

4.3 stop motion : Device to stop winding in the absence of yarn supply by means of:

4.3.1 a mechanical system;

4.3.2 an electronic system.

4.4 tension compensator : Device allowing the tension imparted to the yarn by the tensioner to be maintained constant or to be reduced during the winding operation.

4.5 pressure device : Device permitting the maintenance and the reduction of the pressure exerted by the yarn guide or the pressure roller on the package, in the case of positive winding, and of the package itself in the case of winding with a surface drive.

4.6 yarn feeding device : An assembly, free to rotate, and designed to reduce the tendency to 'snatch' when unwinding the creel package.

4.7 supply yarn creel

4.7.1 for unwinding overend : Stationary spindles or pegs to hold the supply packages.

4.7.2 for unwinding from the side : Spindles, mandrels or other rotating parts to hold the supply packages.

4.8 measuring device

4.8.1 full package stop motion : Device to stop the winding when the package attains the pre-determined diameter.

4.8.2 pre-determined length counter : Device to stop winding when the length of yarn wound attains the pre-set value.

4.9 yarn finishing applicator : Device designed to impart to the yarn a particular condition depending upon the use to which it is to be put. The details of the relevant types depend upon whether the finish to be applied to the yarn is in liquid or solid form:

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[1] The word 'ribboning' used here refers to the effect caused by the winding on of yarn directly over the preceding layer thus creating an uneven package.

4.9.1 waxing attachment : Device to apply paraffin to the yarn during winding.

4.9.2 applicator roller : A roller to apply lubricating fluid to the yarn during winding.

4.10 knotter : Device for tying the ends of yarn.

4.11 automatic doffer : Device for automatically replacing the wound package by an empty package former, the cutting of the yarn being wound and its positioning around the replacement empty package former.

4.12 Conveyor

4.12.1 conveyor for formers:

(1) Device designed to collect the formers in a container for conveying.

(2) Device designed to convey the formers towards the winding spindles of the cone or cheese winding machine.

4.12.2 conveyor for creel packages : Device intended to convey the creel packages towards the winding head for unwinding.

4.12.3 conveyor for wound packages : Device intended to convey the wound packages away from the winding position to an appropriate location.

4.13 dust extractor; air cleaner : Device for removinga nd collecting the dust and fly produced during winding.

4.14 travelling cleaner : Mobile device travelling in front of the machine and blowing a jet of air over the winding heads to assist the cleaning of the machine.

4.15 cleaning aspirator or filtration device : Device, whose intake is preferably behind the winding heads, ensuring the removal of dust and fly and the recycling of this partially filtered air into the winding room.

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BUREAU OF INDIAN STANDARDS

Headquarters:

Manak Bhavan, 9 Bahadur Shah Zafar Marg, New Delhi 110002
Telephones : 331 01 31, 331 13 75

Telegrams : Manaksanstha
(Common to all Offices)

Regional Offices :	Telephone
Central : Manak Bhavan, 9 Bahadur Shah Zafar Marg NEW DELHI 110002	331 01 31 331 13 75
Eastern : 1/14 C. I. T. Scheme VII M, V. I. P. Road, Maniktola CALCUTTA 700054	37 84 99, 37 85 61 37 86 26, 37 86 62
Northern : SCO 445-446, Sector 35-C, CHANDIGARH 160036	53 38 43, 53 16 40 53 23 84
Southern : C. I. T. Campus, IV Cross Road, MADRAS 600113	235 02 16, 235 04 42 235 15 19, 235 23 15
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